

U.S. Patent Application Serial No. 09/923,914  
Reply to Office Action of **October 17, 2003**

**REMARKS**

Claims 1 to 12 are in the application, wherein claims 5 to 8 stand allowed; claims 10 and 11 are recognized by the Examiner as containing allowable subject matter; and claims 1 to 4, 9 and 12 stand rejected. The Office Action has been considered and, pursuant to the Examiner's position as reflected by his comments made in the Office Action, the claims originally filed in the application have been substantially amended and new claims are added in order to enable the claims to provide a broader scope of protection to Applicants' invention.

Also, Figs. 1, 2 and 3 of the drawings are hereby amended in order to correct minor defects therein; namely, the removal of arrow 2 from Fig. 1; in Fig. 2 the addition of a vertical dotted line and the change of a dotted line portion to a solid line; and in Fig 3, the addition of a dotted line similar to that in Fig. 2; and embolding of the oblique line, all as shown in red on the enclosed drawing copies.

The invention, in its broadest sense, is directed to an improved fuel pump mounting structure for an engine having a camshaft which is supported on an upper surface of a cylinder head by the cooperation of the cylinder head with a camshaft holder which is fixed to the upper surface of the cylinder by connecting parts that are operative to connect camshaft bearings together to form the camshaft holder, whereby fastening means are operative for attaching the engine fuel pump to the end of the camshaft holder.

According to another important aspect of the invention, the concerned engine fuel pump mounting structure can be employed with an engine having a lower shaft holder provided on an

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upper surface of a cylinder head, an upper shaft holder superimposed on the lower shaft holder with a camshaft supported by cooperation of the respective upper and lower shaft holders and with the fuel pump being driven by the camshaft wherein a plurality of bearings are operative to support the camshaft, which bearings are connected together by connecting parts to provide the upper shaft holder with fastening means being utilized for attaching the fuel pump to each of the cylinder head and the respective upper and lower shaft holders.

Claim 1 particularly defines the camshaft holder as being formed by connecting together a plurality of bearings for supporting a camshaft by connecting parts and fastening means provided for attaching a fuel pump to an end of the camshaft holder. As described in the specification, at page 2, the second and third paragraphs, as filed, the claimed invention is particularly beneficial in that the camshaft holder to which the fuel pump is fastened by the fastening means is provided with a highly rigid integrated structure owing to a plurality of camshaft supporting bearings being integrally connected together via the connecting parts. Hence, both the rigidity with which the camshaft is supported and the rigidity with which the fuel pump is supported by the camshaft holder are enhanced.

The arrangement defined in claim 1 is not rendered obvious by the combination of Takano with Moriya. Takano shows a bearing cap 54 to which a fuel pump 55 is fixed. However, the bearing cap 54 is not integral with other bearings such as those represented by the bearing cams 51 and 52 shown in Fig. 6. Takano, in fact, fails to teach or suggest any structure or device for integrally connecting the other bearings for supporting the cam shaft 28 to the bearing cap 54 so as

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to enhance the rigidity of the support for the fuel pump 55 provided by the bearing cap 54. Moriya likewise fails to teach or suggest any structure for integrally connecting the plurality of bearings 6 together. (See especially Fig. 2 of the reference). Thus, even if the teachings of the two references are combined as suggested by the Examiner, the structural configuration defined by claim 1, particularly, as now amended, cannot be obtained therefrom.

The patent to Yonezawa, et al. has been cited in the Office Action as showing at 37 a projection which is described as being a rib connection between a cylinder head of the described engine and the mounting surface for a fuel pump and perceived by the Examiner as inherently acting as a reinforcement. This position by the Examiner is not well taken as regards the recitals of claims 3, 4, 7, 8, 10, 11, 15 and 16 wherein the claimed reinforcing rib, shown as 12i and 29f for example in Fig. 4 of the application drawing, bears no functional or structural similarity to the claimed reinforcing rib but, instead, as shown in Figs. 1, 2 and 4 of the reference drawing figures is no more than a bearing flange for enabling the attachment of the upper and lower head members 11 and 12.

For the foregoing reasons, therefore, it is submitted that all of the claims now on file in the application patentably define over the references and should be allowed.

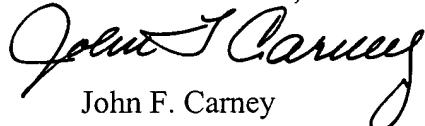
The Examiner is accordingly respectfully requested to favorably consider this Amendment and to allow the application.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosures: Replacement Sheets of Drawing (Figs. 1, 2 and 3)

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FIG.3

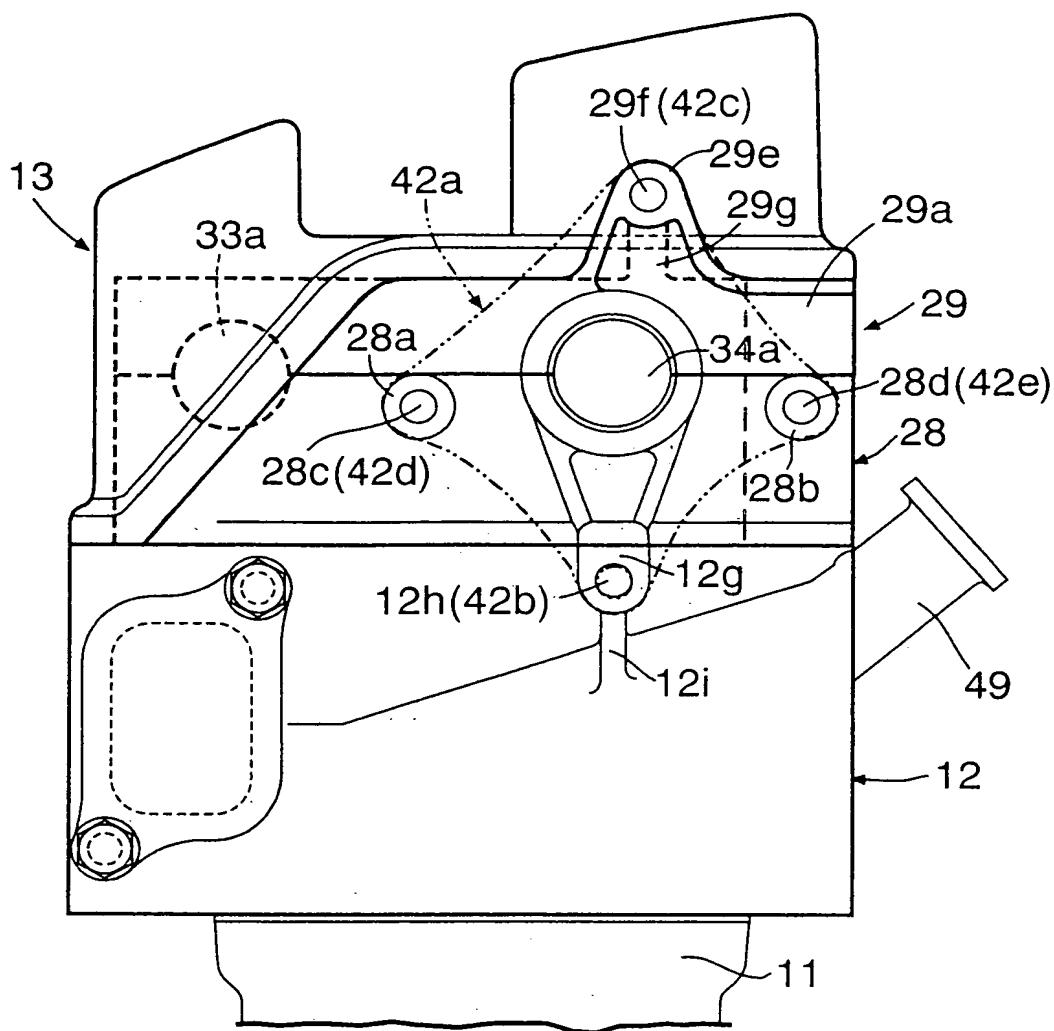




FIG.2

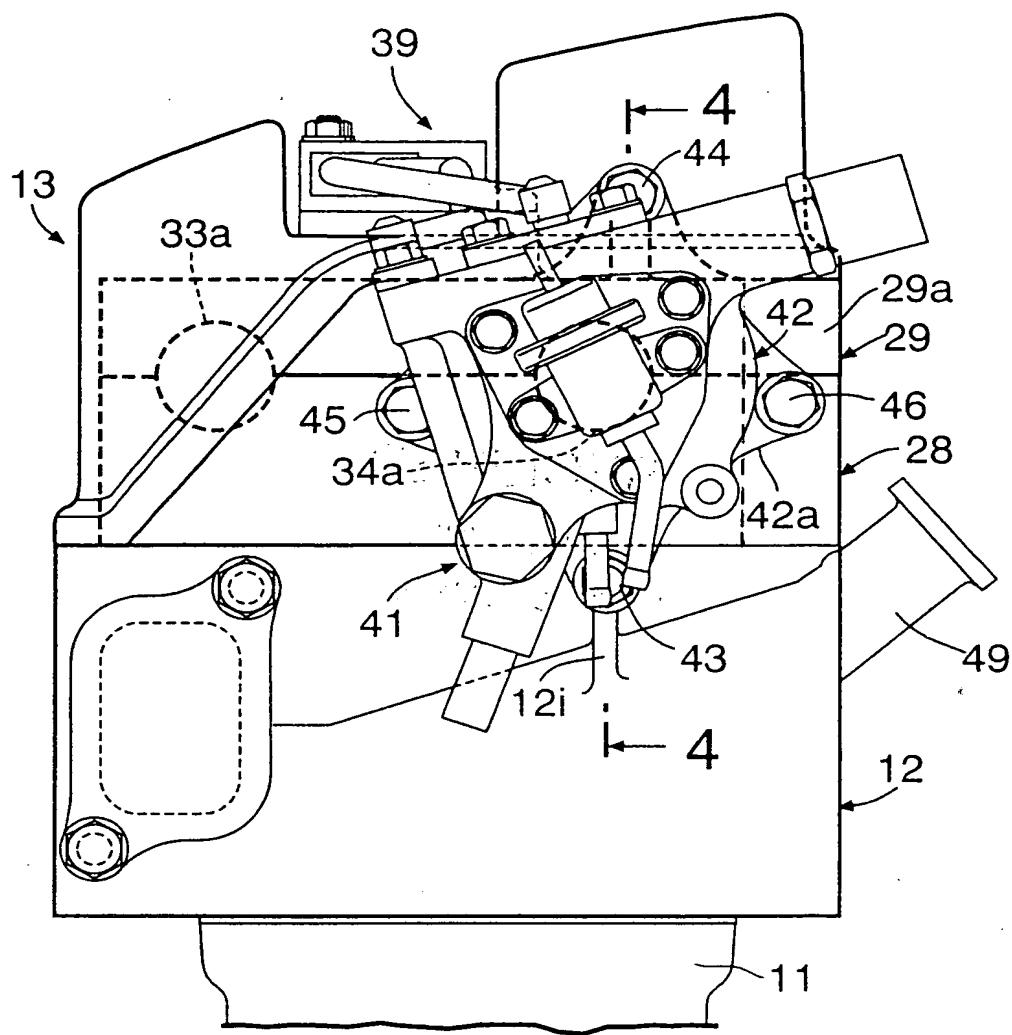


FIG.1

